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Running Head: Effects of Imagery on Egocentrism

Noticing Future Me: Reducing Egocentrism Through Mental Imagery

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Abstract

People drastically overestimate how often others attend to them or notice their unusual features; a phenomenon termed the *spotlight effect*. Despite the prevalence of this egocentric bias, little is known about how to reduce the tendency to see oneself as the object of others' attention. Here, we tested the hypothesis that a basic property of mental imagery — the visual perspective from which an event is viewed — may alleviate a future-oriented variant of the spotlight effect. The results of three experiments supported this prediction. Experiment 1 revealed a reduction in egocentric spotlighting when participants imagined an event in the far compared to near future. Experiments 2 and 3 demonstrated reduced spotlighting and feelings of embarrassment when participants viewed an impending event from a third-person (vs. first-person) vantage point. Simple changes in one's visual perspective may be sufficient to diminish the illusion of personal salience.

Keywords: egocentrism, mental imagery, prospection, self, visual perspective, spotlight effect

Noticing Future Me: Reducing Egocentrism Through Mental Imagery

At some point or another almost everyone has lamented a new hairstyle or choice of swimwear. Difficulties arise because of a tendency to assume that other people are certain to notice our appearance and behavior, a bias dubbed the *spotlight effect* (Gilovich, Medvec, & Savitsky, 2000). All is not as it seems, however. Although it may genuinely feel as though the eyes of the world are fixated on our disastrous perm or tiny trunks, this is but an egocentric illusion — in reality, hardly anyone is watching (Epley, Savitsky, & Gilovich, 2002; Gilovich, Kruger, & Medvec, 2002; Gilovich et al., 2000).

Pioneered by Gilovich and colleagues, classic investigations of the spotlight effect have explored people's reactions to wearing items of clothing (Gilovich et al., 2000). In one set of studies (Expts. 1 & 2), participants sporting a t-shirt with an embarrassing logo (an image of Barry Manilow) walked in on a group of individuals completing questionnaires. Afterwards, when asked to estimate how many people noticed the t-shirt, participants significantly overestimated the number, an effect that also emerged when they were required to wear a desirable garment (e.g., Martin Luther King Jr. logo). Aside from items of attire, self-centric judgments also arise when people's behaviors are the target of interest. In another study (Gilovich et al., 2000, Expt. 3), members participating in a group discussion later exaggerated the salience of both their positive (e.g., advancing the conversation) and negative (e.g., upsetting someone) contributions to the exchange. The message then is clear. Whether t-shirts or insults, haircuts or pimples, people routinely believe they are more conspicuous to others than is actually the case.

Beyond a quirky facet of self-perception, the spotlight effect has tangible implications for daily life and psychological wellbeing. Believing that one is disproportionately visible, thus likely to be judged and remembered by others, can be a significant source of stress and anxiety (Brown & Stopa, 2007). In addition, the glare of the social spotlight can impair task performance, precipitate unwanted feelings, and thwart goal pursuit (Gilovich & Savistsky, 1999; Savitsky, Epley, & Gilovich, 2001).

Given these deleterious effects, it is surprising that few remedies exist for counteracting our tendency to mistakenly assume we are noticeable to others. As it turns out, however, existing psychological theories do suggest a possible solution to the problems posed by the spotlight effect, at least with respect to a future-oriented variant of this illusion (Gilbert & Wilson, 2009). A host of egocentric biases — including inflated estimates of personal salience — are thought to arise from the pervasive failure to make appropriate adjustments (e.g., corrections) from the anchor of our own first-person phenomenological experiences (i.e., if it looks or seems obvious to me, it must be obvious to everyone; see Gilovich et al., 2000, 2002; Epley & Gilovich, 2004; Epley, Morewedge, & Keysar, 2004). As a result, assessments of how one looks to others are dominated by perceptions of how one appears to oneself.

If, then, estimates of personal salience arise as a failure to appreciate how one appears from an outside perspective, a remedial solution may be readily at hand — encourage individuals to adopt an external (i.e., third-person) vantage point when considering future events, as this should undermine the very source of this egocentric bias (i.e., first-person experiences). That is, just as the character of subjective experience promotes egocentrism, so too it may potentially reduce this mode of thought. The idea that egocentrism can be attenuated following a shift in visual perspective has been advocated by a host of influential theorists. According to Piaget (1926), for example, self-centric responding is diminished when people shift attention from the external world and focus instead on the self from an outside point-of-view, a switch in vantage point that reflects the capacity to construe the self from either a first- (i.e., actor) or third-person (i.e., observer) perspective (Libby & Eibach, 2011). Echoing this position, self-awareness theory (Duval & Wicklund, 1972) contends that individuals become less egocentric when they mentally turn their attention towards the self as an object in the environment. Termed the *looking glass* self by Cooley (1902), this shift in experiential awareness (i.e., first- to third-person) is believed to contextualize behavior (e.g., self is but a single stimulus in complex, multifaceted settings) and diminish egocentrism.

The ability to imagine oneself from contrasting perspectives may have important implications for predictions of personal salience (e.g., if I wear a kilt on Saturday evening, will everybody notice me?). Specifically, these should be less extreme when one's future self is viewed from a third-person than first-person perspective (Duval & Wicklund, 1972; Piaget, 1926), a possibility we explored in our first experiment. Emphasis is placed on the future self for good reason. Although, as noted, the social spotlight shines brightly when judging one's salience in the past (Gilovich et al., 2000, 2002), it is unclear if perceptions of events and experiences that have yet to occur are similarly laced with egocentric thinking (i.e., prospective spotlighting). Given the significant periods of time that people spend pondering their future selves and the pivotal role that prospection plays in everyday life (Gilbert & Wilson, 2009; Smallwood & Schooler, 2006; Suddendorf & Corballis, 2007; Szpunar, 2010), this issue is of considerable theoretical and practical significance.

Experiment 1

To investigate vantage-point differences in estimates of personal salience, participants (i.e., predictors) were required to imagine wearing a distinctive t-shirt (i.e., image of a blue whale), while chatting with some friends, prior to entering a classroom on campus. During the conversation, 40 students walked past the group and entered the room. To impact the visual perspective from which the event was viewed, the experience was scheduled to take place in the future (hence prospective spotlighting), either tomorrow (i.e., near-future) or in 3 years time (i.e., far-future). Supported by an extensive literature, Construal Level Theory (CLT) contends that temporal distance alters the representation of imaginary events, including the perspective from which they are spontaneously generated (Trope & Liberman, 2003, 2010). Whereas impending events trigger predominantly first-person imagery, distant events are viewed from a third-person vantage point (Macrae et al., 2015; Pronin & Ross, 2006)

Following guided imagery, participants were asked to estimate how many of the students entering the classroom noticed their t-shirt. We expected t-shirt estimates to be lower for an event in

the far than near future, reflecting a reduction in egocentrism via shifts in visual perspective (Macrae et al., 2015; Trope & Liberman, 2003; Duval & Wicklund, 1972).[1] To obtain baseline data pertaining to the actual salience of the target event, additional participants (i.e., experiencers) walked past a confederate (wearing a blue whale t-shirt) chatting with friends outside a classroom on campus and were later probed for awareness of the confederate's t-shirt.

Method

Participants and Design

One hundred and twenty undergraduates took part in the research, 80 predictors (45 females, M_{age} = 20.73, SD = 2.26)[2] and 40 experiencers (31 females, M_{age} = 21.20, SD = 2.16). The experiment had a single factor (Temporal Distance: near or far) between-participants design and was reviewed and approved by the Ethics Committee at the School of Psychology, University of Aberdeen.

Materials and Procedure

Predictors (N = 80, first-year undergraduates) arrived at the laboratory individually, were greeted by a female experimenter and randomly assigned to one of the conditions. The experimenter was blind to the experimental hypothesis. Participants were informed that the task entailed a brief period of mental imagery, after which aspects of their imaginary experience would be probed. The experimenter then explained that participants were required to imagine standing near the doorway outside a familiar classroom on campus, chatting with a couple of friends, prior to entering the room. They were further informed that, while they chatted, 40 undergraduates would walk past them and enter the classroom. Critically, the imaginary episode was scheduled to take place either tomorrow (i.e.,

[1] Similar predictions could be furnished as a function of increasing physical distance (i.e., near location = first-person imagery; far-location = third-person imagery, see Trope & Liberman, 2003, 2010).
[2] An *a priori* sample size calculation (G*Power, d = 0.6, α = .05, power = 80%) revealed a requirement of 72 participants - 36 per experimental condition. An additional 10% were recruited to allow for drop out.

'near' future) or in three years time (i.e., 'far' future).[3] Participants were then shown a photograph of a t-shirt and instructed that they were to imagine wearing the item during the imaginary episode. The t-shirt was white and depicted an image of a blue whale.[4] Once the instructions were fully understood, participants closed their eyes and spent 20 seconds imagining the event.

Following the guided imagery, participants were required to select, from two possibilities, the vantage point that best described the image they had formed of the event (Pronin & Ross, 2006): (a) I saw the scene from my original point of view (not as an external observer would see it). I did not see myself in the image, since it was as though I was looking at the event through my own eyes (i.e., actor's perspective); or (b) I saw the scene as an observer might see it (not from my original point of view). I saw myself in the image, since it was as though I was looking at the event through the eyes of an observer (i.e., observer's perspective). Next, they were asked to estimate how many of the 40 students that entered the room would have noticed their blue whale t-shirt. Participants were then debriefed, thanked and dismissed.

Experiencers ($N = 40$) comprised members of a weekly undergraduate psychology course that was held in a classroom on campus. As they entered the room, experiencers passed 3 confederates (2 females) chatting near the doorway, one of who was wearing the t-shirt depicting the blue whale. While half of the experiencers passed a male confederate who was wearing the t-shirt, the others passed a female confederate. Prior to the commencement of the class, experiencers were approached individually and asked if they had noticed and could report the image on the confederate's t-shirt.

Results

Egocentrism

As expected, predictors' estimates of how many people noticed the t-shirt were greater (i.e., more egocentric) when the event was scheduled to take place in the near ($M = 34\%$, $SE = 4\%$) than far

[3] As undergraduate degrees in Scotland take 4 years to complete, participants would still be at University at this point in the future.

[4] Pre-testing established that this was a desirable t-shirt to wear because of its environmental implications.

(*M* = 17%, *SE* = 2%) future, $t(78) = 3.23$, $p = .002$, 95% CI: [6.4, 26.9], $d = 0.72$. Thus, far-future (vs. near-future) imagery halved the salience of the future self. As 2 experiencers in the baseline condition successfully reported the image on the t-shirt (i.e., 2/40 = 5%),[5] this returned overestimates of 29% and 12% in the near- and far-future conditions, respectively.

Visual Perspective

A chi-square test of independence revealed a significant relation between Temporal Distance and the visual perspective adopted during mental imagery, $\chi^2(1, N = 80) = 4.06$, $p = .044$, 95% CI: [0.01, 0.42], $r = .22$. Whereas simulations of an event in the near future (i.e., tomorrow) were dominated by a first-person (i.e., actor) representation of the self, this switched to a third-person (i.e., observer) depiction when the event was located in the far (i.e., in 3 years time) future (see Table 1).

Table 1. Vantage point adopted (% participants) as a function of temporal distance

	Temporal Distance	
Visual Perspective	Near	Far
First-Person	65%	40%
Third-Person	35%	60%

Mediation by Visual Perspective

Regression analyses were undertaken to test whether visual perspective mediated the relation between Temporal Distance and egocentrism (Baron & Kenny, 1986; Iacobucci, 2012). The results

[5] In the classic spotlight paradigm (Gilovich et al., 2000, Expt. 2), 8% of experiencers noticed a desirable t-shirt worn by participants.

revealed that visual perspective uniquely predicted estimates of how many people would notice the t-shirt (B = 11.51, SE = 2.73, p < .001). When visual perspective was included simultaneously in the model, the relation between Temporal Distance and egocentrism was weakened but remained significant (B = 9.33, SE = 4.88, p = .05). Bootstrapping procedures (5000 re-samples) were used to test the significance of the indirect effect. These confirmed that visual perspective exerted a significant indirect effect on egocentrism (indirect effect = 7.37; 95% bootstrapped confidence intervals, CI: [2.52, 15.53], see Figure 1).

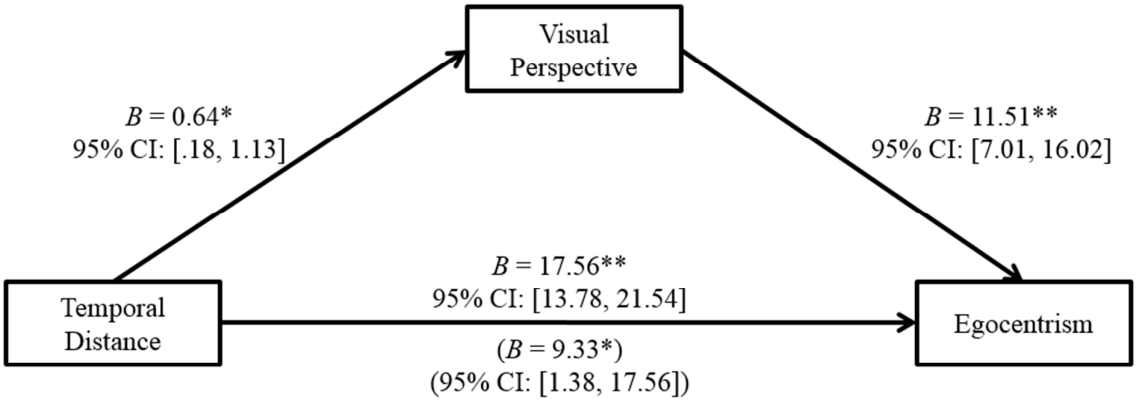

Figure 1. Visual perspective as a mediator of egocentrism. Numbers along the paths are unstandardized regression coefficients (*p < .05, **p < .001) and 95% CIs. The values in parentheses are the coefficient and CIs when both predictors are included in the model.

Discussion

Experiment 1 revealed an increased adoption of third-person (vs. first-person) imagery and attenuated egocentrism when participants imagined an event in the far compared to near future (Macrae et al., 2015; Pronin & Ross, 2006; Trope & Liberman, 2010). Moreover, visual perspective

(partially) mediated the relation between temporal distance and personal salience (Duval & Wicklund, 1972). What this then suggests is that a basic manifestation of egocentrism can be reduced through the adoption of third-person imagery (Buehler, Griffin, Lam, & Deslauriers, 2012). These effects need not be restricted to the spontaneous construal of distant-future events, however (Trope & Liberman, 2003, 2010). If people were encouraged to view a near-future event from a third-person (vs. first-person) perspective this should similarly diminish prospective spotlighting. We explored this possibility in our next experiment.

Experiment 2

Method

Participants and Design

One hundred and twenty undergraduates took part in the research, 80 predictors (32 females, M_{age} = 22.33, SD = 1.95)[6] and 40 experiencers (31 females, M_{age} = 20.50, SD = 1.62). The experiment had a single factor (Visual Perspective: first or third) between-participants design and was reviewed and approved by the Ethics Committee at the School of Psychology, University of Aberdeen.

Materials and Procedure

Predictors (N = 80, first-year undergraduates) arrived at the laboratory individually, were greeted by a female experimenter and randomly assigned to one of the treatment conditions. The experimenter was blind to the experimental hypothesis. The procedure was identical to Expt. 1, but with two important modifications. First, the t-shirt participants imagined wearing depicted an image of the controversial celebrity Miley Cyrus (Gilovich et al., 2000).[7] Second, prior to the guided imagery, participants were instructed about the visual perspective they were required to adopt during the task (Macrae et al., 2014; Macrae, Sunder Raj, Best, Christian, & Miles, 2013). Those in the first-person

[6] An *a priori* sample size calculation (G*Power, d = 0.6, α = .05, power = 80%) revealed a requirement of 72 participants - 36 per experimental condition. An additional 10% were recruited to allow for drop out.

[7] Pre-testing established that this was an embarrassing item to wear.

condition were told, "When you imagine the event, please picture it from a first-person perspective. Visualize the event from your own viewpoint — that is, see the event through your own eyes." Alternatively, participants in the third-person condition were instructed, "When you imagine the event, please picture it from a third-person perspective. Visualize the event as if you were an outside observer — that is, see yourself as if through the eyes of another person." Following the guided imagery, participants estimated how many of the 40 students that entered the room would have noticed their Miley Cyrus t-shirt.

Experiencers ($N = 40$) comprised members of a weekly undergraduate psychology course that was held in a classroom on the campus. On this occasion they passed 3 confederates (2 females) chatting near the doorway, one of who was wearing the t-shirt depicting Miley Cyrus. Prior to the commencement of the class, experiencers were approached individually and asked if they had noticed and could report the image on the confederate's t-shirt.

Results

Egocentrism

As expected, predictors' estimates of how many people noticed the t-shirt were greater (i.e., more egocentric) when the event was viewed from a first-person ($M = 47\%$, $SE = 5\%$) than third-person ($M = 27\%$, $SE = 4\%$) vantage point, $t(78) = 2.84$, $p = .006$, 95% CI: [6.1, 34.3], $d = 0.64$. Thus, adoption of a third-person (vs. first-person) perspective during mental imagery substantially reduced egocentric responses. As 5 experiencers correctly reported the image on the t-shirt (i.e., 5/40 = 12.5%),[8] this returned overestimates (i.e., estimates – baseline data) of 34.5% and 14.5% in the first- and third-person imagery conditions, respectively.

[8] In the classic spotlight paradigm (Gilovich et al., 2000, Expt. 1), 23% of experiencers noticed an embarrassing t-shirt worn by participants.

Discussion

The results of Experiment 2 further underscore the influence of vantage point on egocentrism. Instructing participants to adopt third-person (vs. first-person) imagery when contemplating an impending event reduced the salience of the future self. Replicating Experiment 1, participants reported they were less noticeable to others when they imagined an event from the perspective of an outside observer.

But how exactly does third-person imagery attenuate egocentrism? Although the adoption of an external point-of-view is undoubtedly a necessary ingredient for reductions in spotlighting (Duval & Wickland, 1972; Piaget, 1926), other factors likely contribute to the emergence of this effect. For example, when simulating an event, first- versus third-person vantage points emphasize different aspects of the imaginary experience (see Libby & Eibach, 2011). Whereas third-person simulations tend to focus on the overarching purpose of an event, first-person simulations highlight concrete (i.e., experiential) details and are accompanied by pronounced neural and psychological reactions (e.g., Christian, Miles, Kenyeri, Mattschey, & Macrae, in press; Christian, Parkinson, Macrae, Miles, & Wheatley, 2015; Holmes & Mathews, 2010; McIssac & Eich, 2002). Put simply, first-person simulations are more embodied than their third-person equivalents (Christian et al., 2015, in press; Macrae et al., 2013; Miles, Christian, Masilamani, Volpi, & Macrae, 2014).

What these vantage-point differences suggest is that predictions susceptible to bias as a result of psychological reactivity such as the spotlight effect, should be greater when simulations are generated from a first-person (vs. third-person) perspective. For example, when imagining wearing a Miley Cyrus t-shirt, the accompanying visceral sensations (i.e., feelings of embarrassment) should be more pronounced during first-person compared to third-person simulations (Christian et al., 2015; Miles et al., 2014; Kross, 2009), prompting increased estimates of personal salience. In other words, it is not simply adoption of a third-person vantage point per se that diminishes egocentrism in certain contexts (cf., Duval & Wicklund, 1972), but also the attenuated psychological reactions that accompany this form of self-construal (e.g., Ayduk & Kross, 2010; Kross, 2009; Kross, Gard, Deldin,

& Clifton, 2012). As Kross et al. (2012, p. 559) argue, "Self-distancing…allows people to transcend their egocentric viewpoint." We explored this possibility in our final experiment in a task in which participants once again imagined wearing a Miley Cyrus t-shirt from either a first-person or third-person vantage point. On this occasion, however, their emotional reaction during the imaginary experience was probed. We expected t-shirt estimates to be lower following third-person (vs. first-person) imagery, reflecting a reduction in egocentrism via shifts in feelings of embarrassment.

Experiment 3

Method

Participants and Design

Eighty undergraduates took part in the research (48 females, $M_{age} = 21.70$, $SD = 2.42$).[9] The experiment had a single factor (Visual Perspective: first or third) between-participants design and was reviewed and approved by the Ethics Committee at the School of Psychology, University of Aberdeen.

Materials and Procedure

Participants arrived at the laboratory individually, were greeted by a female experimenter and randomly assigned to one of the treatment conditions. The experimenter was blind to the experimental hypothesis. The procedure was identical to Expt. 2, but with the inclusion of an additional dependent measure. Following the guided imagery (i.e., first-person vs. third-person), participants rated how embarrassed they felt during the simulated experience. These judgments were furnished on a 9-point rating scale with appropriate anchors (i.e., 1 = not at all embarrassed; 9 = very embarrassed). Participants then estimated how many people noticed their t-shirt, after which they were debriefed, thanked and dismissed.

[9] An *a priori* sample size calculation (G*Power, $d = 0.6$, $\alpha = .05$, power = 80%) revealed a requirement of 72 participants - 36 per experimental condition. An additional 10% were recruited to allow for drop out.

Results

Egocentrism

As expected, predictions of how many people noticed the t-shirt were greater (i.e., more egocentric) when the event was viewed from a first-person (M = 48%, SE = 5%) than third-person (M = 30%, SE = 4%) vantage point, $t(78) = 2.91$, p =.005, 95% CI: [5.7, 30.2], d = 0.65. Thus, adoption of a third-person (vs. first-person) perspective during mental imagery substantially reduced egocentrism.

Embarrassment

Confirming our prediction, feelings of embarrassment during the imaginary experience were greater when the event was generated from a first-person (M = 5.33, SE = 0.41) than third-person (M = 3.88, SE = 0.44) vantage point, $t(78) = 2.41$, p = .018, 95% CI: [0.25, 2.65], d = 0.54.

Mediation by Embarrassment

Regression analyses were undertaken to test whether embarrassment mediated the relation between Visual Perspective and egocentrism (Baron & Kenny, 1986). The results revealed that embarrassment uniquely predicted estimates of how many people would notice the t-shirt (B = 7.11, SE = 0.84, $p < .0001$). However, when embarrassment was included simultaneously in the model, the relation between Visual Perspective and egocentrism was eliminated (B = 7.63, SE = 4.62, *ns*). Bootstrapping procedures (5000 re-samples) were used to test the significance of the indirect effect. These confirmed that embarrassment exerted a significant indirect effect on egocentrism (indirect effect = 10.31; 95% bootstrapped confidence intervals, CI: [1.80, 20.33], see Figure 2).

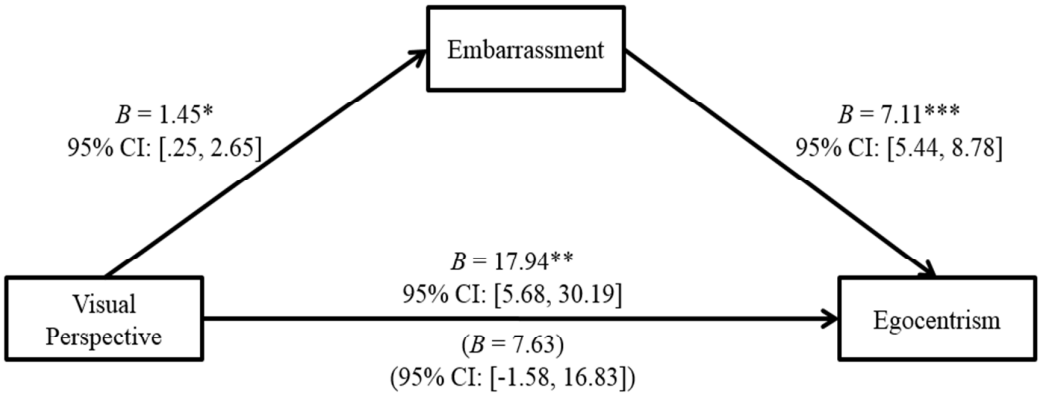

Figure 2. Embarrassment as a mediator of egocentrism. Numbers along the paths are unstandardized regression coefficients (*$p < .05$, **$p < .01$, ***$p < .001$) and 95% CIs. The values in parentheses are the coefficient and CIs when both predictors are included in the model.

General Discussion

To optimize behavior, people rely on mental simulations that preview how future events are likely to unfold (Dunning, 2007; Trope & Liberman, 2010; Wilson & Gilbert, 2003). As non-representative simulations elicit inexact outcomes (e.g., predictions, judgments, forecasts, see Gilbert & Wilson, 2009), the usefulness of simulating rests squarely on the degree to which imaginary experiences capture essential characteristics of the events in question. In the context of personal salience, here we showed that the perspective from which imaginary future episodes are viewed plays a prominent role in the generation of people's forecasts. Specifically, estimates of personal salience were reduced when events were viewed from a third-person (vs. first-person) vantage point (Duval & Wicklund, 1972; Piaget, 1926).

These findings are informative for several reasons. First, they confirm that prospection (like retrospection) generates egocentric estimates of personal salience (Gilovich et al., 2000). Second, they

demonstrate that the vantage point adopted during mental imagery influences the magnitude of these effects (i.e., third-person < first-person). Third, they identify the psychological reactions generated during mental imagery as a critical determinant of vantage-point differences in egocentrism. This latter finding is interesting as it resonates with work exploring the effects of self-perspective (i.e., self-immersed vs. self-distanced) on reactions toward negative events (see Kross, 2009; Kross et al., 2012). In a seminal article, Kross, Ayduk, and Mischel (2005) requested participants to recall a past event in which they felt powerful feelings of anger and hostility. Critically, they were then instructed to analyze their feelings from either a self-immersed (i.e., actor) or self-distanced (i.e., observer) perspective. The results were striking: participants in the self-distanced condition displayed significantly lower levels of emotional reactivity (hence distress) than their counterparts in the self-immersed condition. In other words, distancing acted as a buffer against maladaptive forms of self-reflection (Ayduk & Kross, 2008).

Extending these findings, in the current investigation the effects of self-distancing were observed when participants simulated a potentially embarrassing future event. Compared to first-person imagers, third-person imagers reported less embarrassment when imagining wearing a Miley Cyrus t-shirt, an effect that in turn reduced their estimates of personal salience.[10] These results contribute to an emerging literature documenting diminished sensorimotor activity when events are imagined from a third-person (vs. first-person) vantage point (e.g., Christian, Miles, Kenyeri, Mattschey, & Macrae, in press; Christian et al., 2015; Miles et al., 2013). For example, Christian et al. (2015) showed reduced responses in the anterior insula (indicative of interoception) when participants imagined painful experiences (e.g., shutting a finger in a drawer) from a third-person than first-person perspective. Similarly, both willingness to pay and consumption of desirable foods (e.g., candies, cakes) are reduced when eating is imagined from a third-person (vs. first-person) vantage point, effects that are driven by the diminished sensory experiences (e.g., taste, smell) that accompany third-person imagery (Christian et al., in press). In this way, distancing via third-person imagery may be a useful

[10] While embarrassment is the associated emotion when imagining wearing an undesirable t-shirt, desirable garments likely influence egocentrism via feelings of pride.

strategy when one needs to attenuate the physical and psychological consequences that accompany remembering the past or previewing the future. Interestingly, a similar reduction in psychological reactivity appears to undermine retrospective spotlighting. When given 15 minutes to wear an embarrassing t-shirt prior to exposure to a group of individuals (Gilovich et al., 2000, Expt. 5), habituation to the garment prompted a reduction in participants' estimates of personal salience. In other words, reduced emotional intensity diminished the strength of the self-anchoring effect.

In light of the current findings, it is worth noting that third-person imagery has been shown to facilitate behaviors congruent with self-conceptualizations; notably people's reliance on their own attitudes and beliefs when rendering judgments and generating actions in particular settings (Libby, Eibach, & Gilovich, 2005; Libby, Valenti, Pfent, & Eibach, 2011; Libby, Valenti, Hines, & Eibach, 2014). According to Libby and Eibach's influential model (2011), third-person imagery prompts people to understand self-relevant events and experiences on the basis of their abstract propositional beliefs (e.g., values, preference). Specifically, components of personal identity (e.g., self-esteem, self-change) increase in salience and influence following adoption of a third-person vantage point (Libby et al., 2005, 2011). Practically speaking, this suggests that a third-person vantage point may be helpful in guiding behavior in a value-consistent manner. Corroborating this prediction, compared to the adoption of first-person imagery, third-person imagery has been shown to promote voting behavior (Libby, Shaeffer, Eibach, & Slemmer, 2007).

At first blush, one would perhaps expect third-person imagery to exert a comparable effect on prospective spotlighting. After all, if visual salience drives the misperception that one is highly noticeable to others (Gilovich et al., 2000), then surely this illusory belief should be elevated under imagery conditions in which an embarrassing garment can be seen (i.e., third-person perspective) rather than unseen (i.e., first-person perspective). Yet precisely the opposite effect is reported here, with a third-person vantage point attenuating egocentrism. Consideration of the imagery instructions provided to participants may explain the emergence of these diverging effects. In previous research exploring vantage-point effects in social cognition, only the visual perspective of participants has been

manipulated (e.g., "see yourself and your surroundings from the visual perspective of an outside observer" — Libby et al., 2005, 2011, 2014). In contrast, the current instructions prompt participants to view the imaginary event as if it were through the eyes of another person, thereby potentially encouraging them to adopt both the visual and psychological perspective of an external observer. This subtle difference may account for decreased egocentrism following third-person imagery, as adopting the psychological perspective of another person would necessarily diminish perceptions of self-salience (Epley et al., 2002; Galinsky & Moskowitz, 2000). In this way, the current findings corroborate the effects of self-distancing on cognition and behavior (i.e., third-person imagery = attenuated psychological reactivity) as this work also entails imagining events as if they were happening to another person (Kross et al., 2012). Intriguingly, were only the visual perspective of participants manipulated then it is conceivable that prospective spotlighting may be increased following third-person (vs. first-person) imagery (Gilovich et al., 2000), a possibility that awaits empirical attention.

Although it is unlikely that third-person imagery is an effective de-biasing tool for all people's forecasting frailties (Wilson & Gilbert, 2003), there are probably a number of contexts in which adopting this vantage point can facilitate the utility of mental simulation (see also Buehler et al., 2012). Two likely candidates are the illusion of transparency and affective forecasting. A close relative of the spotlight effect, the illusion of transparency reflects people's tendency to overestimate the extent to which others can intuit their internal psychological states (Gilovich et al., 1998; Savitsky & Gilovich, 2003). For example, when lying to a host about the quality of his cooking ('this is the best paella I've ever tasted'), people suspect their dishonesty is more obvious than is actually the case. Overpowered by the force of their own first-person subjective experiences ('this paella tastes like sawdust'), people erroneously assume their inner thoughts and feelings are apparent to others. Adoption of third-person imagery when simulating future events may attenuate this bias.

Affective forecasting (i.e., emotional prediction) may likewise benefit from third-person imagery (Emanuel, Updegraff, Kalmbach, & Ciesla, 2010). For example, research has revealed that

undergraduates' affective reactions to a future event (i.e., speed dating) are more accurate when they know how a fellow student reacted than when they have information about the event themselves. That is, neighborly advice (i.e., an observer's viewpoint) trumps self-knowledge (Gilbert, Killingsworth, Eyre, & Wilson, 2009). Rather than go to the trouble of consulting a colleague, however, affective forecasts may be improved through the adoption of a third-person vantage point during event simulation. Specifically, less egocentrism may translate into refined self-appraisal, a possibility that awaits empirical scrutiny.

Surprisingly perhaps, diminished egocentrism in future forecasts may also have some undesirable consequences. People often feel a fundamental disconnect between their current and future selves, an effect that is magnified with increasing temporal distance (Pronin, Olivola, & Kennedy, 2008; Trope & Liberman, 2003). This lack of psychological connectedness can trigger a range of sub-optimal decisions and behaviors in the here-and-now. For example, lower identification with one's (distant) future self lessons the appeal of saving for retirement (e.g., Hershfield, 2011; Hershfield, Garton, Ballard, Samanez-Larkin, & Knutson, 2009; Mitchell, Schirmer, Ames, & Gilbert, 2011). Indeed, when people lack close affinity with their future selves they are unlikely to foresee the benefits inherent in a raft of contemporary activities, such as investing in a 401k, joining the local gym and regular dental check-ups. The adoption of third-person imagery when simulating the distant future may underpin such oversights.

Conclusion

Few things are as disagreeable as believing that one is perceptually in the spotlight, every move scrutinized and every flaw magnified in the eyes of others. As Gilovich et al. (2002) adroitly observed, "The concern about having a bad hair day is not simply that on some days one's hair behaves itself and on other days is recalcitrant. Rather, it is that others will *notice* those recalcitrant days" (p. 93). As demonstrated herein, this egocentric illusion is most compelling when estimates are derived using first-person imagery. See yourself as others do and you may notice the spotlight on your future self begin to fade.

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Noticing Future Me: Reducing Egocentrism Through Mental Imagery

Experiment 1

Manipulation – Instructions

I would like you to engage in a brief imaginary episode. You are to imagine standing outside a familiar teaching room on campus tomorrow (in 3 years time), chatting with two of your friends prior to entering the classroom. I would like you to imagine that you are wearing the following t-shirt on that day (SHOW PARTICIPANT A PICTURE OF THE T-SHIRT). As you chat with your friends, 40 undergraduates walk past and enter the classroom.

Do you understand the task?

Now, please close your eyes and picture the imaginary event.

Dependent Measures

1. Please estimate how many of the 40 students entering the classroom noticed the whale on your t-shirt?

2. Please select the description that "best describes" the image you formed of the event in your mind.

> A. I saw the scene from my original point of view (not as an external observer would see it). I did not see myself in the image, since it was as though I was looking at the event through my own eyes.
>
> B. I saw the scene as an observer might see it (not from my original point of view). I saw myself in the image, since it was as though I was looking at the event through the eyes of an observer.

Experiment 2

Manipulation – Instructions

First-Person Perspective

I would like you to engage in a brief imaginary episode. You are to imagine standing outside a familiar teaching room on campus chatting with two of your friends prior to entering the classroom. I would like you to imagine that you are wearing the following t-shirt on that day (SHOW PARTICIPANT A PICTURE OF THE T-SHIRT). As you chat with your friends, 40 undergraduates walk past and enter the classroom. When you imagine the event, please picture it from a first-person perspective. Visualize the event from your own viewpoint — that is, see the event through your own eyes.

Do you understand the task?

Now, please close your eyes and picture the imaginary event.

Third-Person Perspective

I would like you to engage in a brief imaginary episode. You are to imagine standing outside a familiar teaching room on campus chatting with two of your friends prior to entering the classroom. I would like you to imagine that you are wearing the following t-shirt on that day (SHOW PARTICIPANT A PICTURE OF THE T-SHIRT). As you chat with your friends, 40 undergraduates walk past and enter the classroom. When you imagine the event, please picture it from a third-person perspective. Visualize the event as if you were an outside observer — that is, see yourself as if through the eyes of another person.

Do you understand the task?

Now, please close your eyes and picture the imaginary event.

Dependent Measure

Please estimate how many of the 40 students entering the classroom noticed Miley Cyrus on your t-shirt?

Experiment 3

Manipulation – Instructions

As per Experiment 2.

Dependent Measures

1. Please estimate how many of the 40 students entering the classroom noticed Miley Cyrus on your t-shirt?

2. How embarrassed did you feel as you stood outside the classroom chatting with your friends?

Not at All Embarrassed								Very Embarrassed
1	2	3	4	5	6	7	8	9